

Ultra Brightness RED LED Lamp

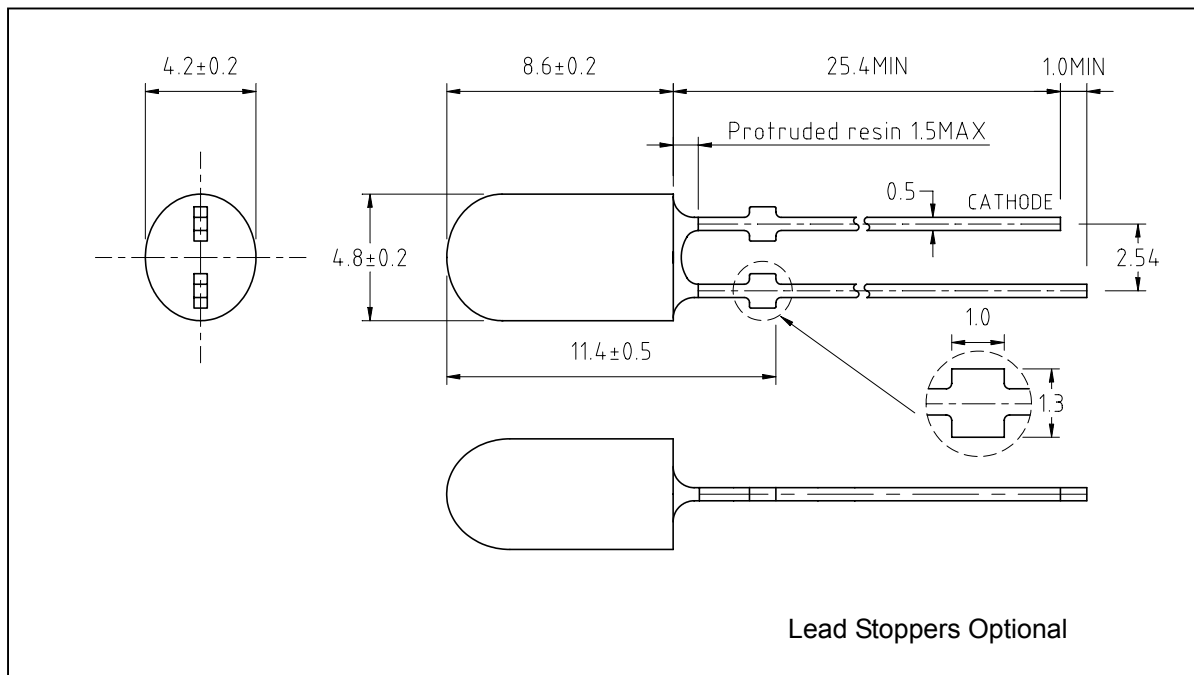
4mm Oval Precision Through-Hole Package

PL-LTRE4V50D series



FEATURES	APPLICATIONS
<ul style="list-style-type: none">• Super luminosity Red 630nm LED• TS AlInGaP/GaP die.• 4.8mm X 4.2mm Oval Precision Package.• Red Diffused Lens.• Wide viewing angles (50°(H) / 20° (V)).• UV Resistant Epoxy for Outdoor use.	<ul style="list-style-type: none">• Traffic Signals.• Railroad Signals• Outdoor Score/Clock Boards• Full Color RGB Video Displays• VMS.• Back or Side lighting.• Automotive.

PACKAGE OUTLINE DIMENSIONS:



NOTES:

1. All dimensions are in millimeters.
2. Tolerance is ± 0.25 mm unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. Specifications are subject to change without notice.

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ABSOLUTE MAXIMUM RATING (at $T_A = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Continuous Forward Current	I_F	50	mA
Peak Forward Current (1/10 Duty Cycle, 0.1msec Pulse width)	I_{Fp}	100	mA
Power Dissipation	P_d	130	mW
Forward Voltage	V_f	2.6 ± 0.2	V
Derating Factor	D_F	0.4	mA / $^\circ\text{C}$
Reverse Voltage	V_R	5.0	V
Operating Temperature	T_{opr}	-30 to +80	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 to +100	$^\circ\text{C}$
Lead Soldering Temperature (1.6mm (0.063") from body)	260 $^\circ\text{C}$ for 5 seconds		

ELECTRICAL / OPTICAL CHARACTERISTICS (at $T_A = 25^\circ\text{C}$)

Parameter	Symbol	MIN	TYP	MAX	Unit
Forward Voltage	$I_F = 20\text{ mA}$ V_F		2.2	2.60	V
Luminous Intensity	$I_F = 20\text{ mA}$ I_v	1500	3100	4200	mcd
Dominant Wavelength	$I_F = 20\text{ mA}$ λ_d	620	626	630	nm
Spectrum Radiation Bandwidth	$I_F = 20\text{ mA}$ $\Delta\lambda$		20		nm
Reverse Current	$V_R = 5\text{ V}$ I_R			50	μA
Viewing Angle Major Axis X	$2\theta_{1/2}$		50		deg
Viewing Angle Minor Axis Y	$2\theta_{1/2}$		20		deg

GENERAL NOTES:

- Luminous Intensity (I_v) is measured with a light sensor and filter combination (goniospectroradiometer) and is the Luminous Flux per unit solid angle (steradian) emitted by the LED lamp in the direction of the mechanical axis of the lamp and then weighed by the eye response curve (1931 CIE 2° Observer Chromaticity Diagram).
- Luminous Intensity measurement uncertainty is +/- 15% due to test procedures and equipment variations.
- $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity. Tolerance +/- 3°.
- Dominant wavelength is derived from the 1931 CIE 2° Observer Chromaticity Diagram.
- Peak and Dominant wavelength measurement uncertainty is +/- 0.05 due to variations. Tolerance +/- 1nm.
- Caution for ESD: Static Electricity and surges can damage the LED. It is recommended using a wristband or anti-electrostatic glove when handling the LED. All devices, equipment and machinery must be properly grounded.
- Do not apply excess mechanical stress to the leads, especially when heated or while soldering.

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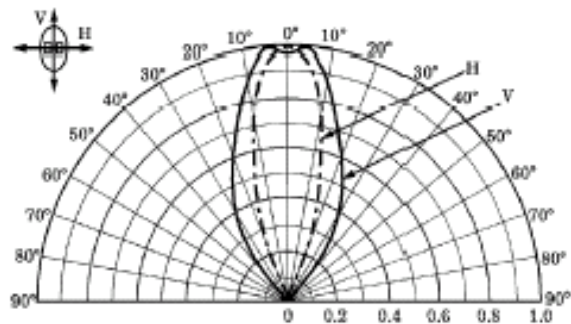
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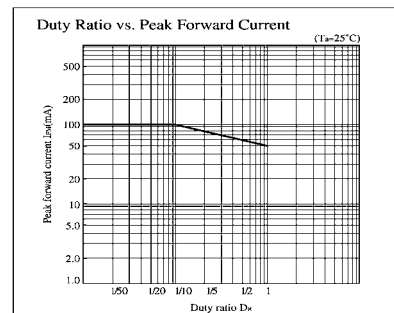
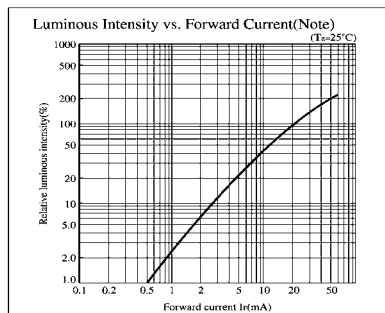
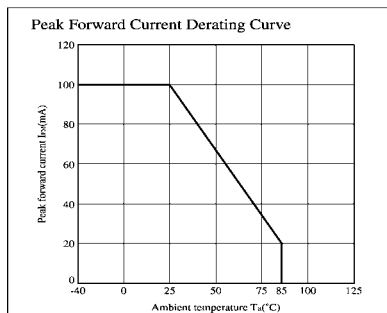
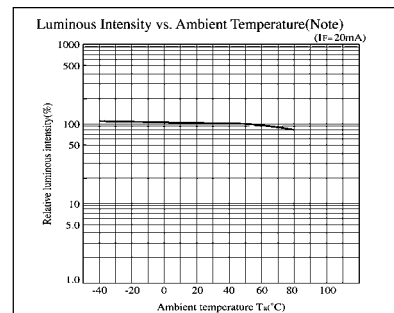
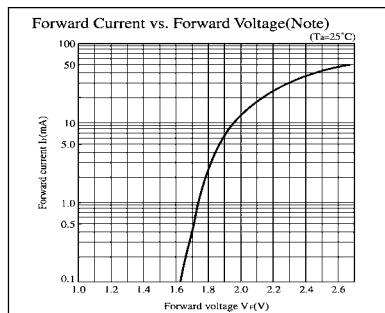
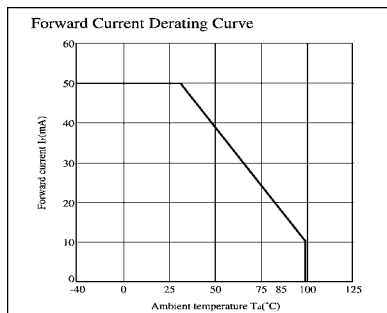
LUMINOUS INTENSITY RANKS (mcd at 20mA)

Rank	Min	Max
R	1500	1900
S	1900	2500
T	2500	3200
U	3200	4200

BEAM RADIATION PATTERNS



TYPICAL ELECTRICAL CHARACTERISTICS CURVES (at 20 mA DC / T_A = 25°C)



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4mm Oval Precision Through-Hole Package

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PRODUCT CODE BREAKDOWN

